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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,940	11/20/2003	David N. Nappier	BING-1-1045	9008
60483	7590	08/16/2006	EXAMINER	
LEE & HAYES, PLLC 421 W. RIVERSIDE AVE. SUITE 500 SPOKANE, WA 99201			HOWELL, DANIEL W	
			ART UNIT	PAPER NUMBER
			3722	

DATE MAILED: 08/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/717,940	NAPPIER ET AL.	
	Examiner	Art Unit	
	Daniel W. Howell	3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 8-11 and 13-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4, 8-11, 13-21 and 29-39 is/are allowed.
- 6) ☒ Claim(s) 6, 22, 24-28 is/are rejected.
- 7) ☒ Claim(s) 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

Art Unit: 3722

1. The drawings are objected to because the three figures of figure 5 should be labeled separately (this will probably require a corresponding amendment to the specification).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. On line 1 of claim 6, "6" must be changed to "1." It is noted that the last paragraph of page 14 of Applicant's arguments explicitly state that claim 6 was supposed to depend from claim 1.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 22 and 24-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Eckman (4688970). Thrust load cell 46 measures the thrust on the spindle. The thrust load cell will measure an initial no-load value, and the measured thrust will increase as the cutter contacts the workpiece 26 (column 7, lines 1-5). As discussed at column 8, lines 31-40, when the cutter breaks through the backside of the workpiece, the thrust sensed by the load cell 46 will decrease significantly, “thereby providing an indication of breakthrough,” and the “spindle feed drive assemblies are again reset to provide for a retraction of cutter 24 from the workpiece.” Column 7, lines 40, through column 8, line 30, discuss continuously monitoring of the thrust while rotating and axially feeding the tool.
5. Claims 22 and 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Neu et al (4310269). Axial thrust sensor 19 consists of a piezoelectric disc 23. When the drill bit approaches the workpiece the sensor provides an indication of zero thrust, and as discussed at column 3, lines 64+, when the drill first strikes a workpiece 4, a positive voltage appears between conductors 24, and when the tool breaks through the workpiece a negative voltage indicative of the greatly reduced axial thrust is produced. As discussed at lines 7-14 of column 4, this signal of breakthrough causes the drill bit to be retracted.
6. Claims 22 and 24-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Alexander (4822215). The thrust sensor is discussed from line 50 of column 3 through column 4. The strain gauges 58-61 provide an indication of the thrust before the drill contacts the workpiece and as the drill moves through the workpiece. As stated at lines 28-31, standard

Art Unit: 3722

circuitry retracts the drill bit 14 when the measured thrust drops to zero. Note that motor 22 retracts the spindle through the threads 42 on the spindle, such that the motor and spindle must be rotating to retract the spindle.

7. Claims 1-4, 8-11, 13-21, 29-39 are allowed.

8. Claim 6 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

9. Claim 23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Applicant's arguments filed 6-9-06 have been fully considered but they are not persuasive. Applicant has added a new limitation to claims 22, in that the retraction of the tool is based on the sensing of the return from the second thrust condition at least partially to the first thrust condition. As is clear from the above rejections, this feature is common.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 3722

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning the content of this communication from the examiner should be directed to Daniel Howell, whose telephone number is 571-272-4478. The examiner's office hours are typically about 10 am until 6:30 pm, Monday through Friday. The examiner's supervisor, Monica Carter, may be reached at 571-272-4475.

In order to reduce pendency and avoid potential delays, Group 3720 is encouraging FAXing of responses to Office actions directly into the Group at FAX number to 571-273-8300. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Daniel Howell of Art Unit 3722 at the top of your cover sheet.

A handwritten signature in cursive script, appearing to read 'Howell', is positioned above the printed name.

Daniel W. Howell  
Primary Examiner  
Art Unit 3722